This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-14 (canceled)

Claim 15 (previously presented): A method for suppressing interference in an electrical signal, the method comprising the steps of:

sampling the electrical signal at a first sampling frequency to obtain a first sequence of samples;

identifying some of the samples in the first sequence of samples on the basis of predetermined criteria; and

downsampling at least the identified samples of said first sequence to obtain a second sequence of samples from the identified samples of said first sequence, the second sequence of samples forming a digital presentation of the electrical signal in which the interference is suppressed.

Claim 16 (previously presented): A method according to claim 15 further comprising the step of generating information about the interference content in the samples and wherein the identification step is further defined as identifying samples in the first sequence of samples on the basis of their interference content.

Claim 17 (previously presented): A method according to claim 16 wherein the generating step is further defined as attaching a flag to each of the samples to indicate whether the sample is free of interference or not.

Claim 18 (previously presented): The method according to claim 16 wherein the identifying step is further defined as identifying samples that are artifact free.

Claim 19 (previously presented): A method according to claim 15 further comprising the step of comparing the samples of the first sequence with a reference signal and wherein the identification step is performed based on the comparing step.

Claim 20 (previously presented): A method according to claim 19 further comprising the step of forming the reference signal from the first sequence of samples by limiting a slew rate in the sequence.

Claim 21 (previously presented): A method according to claim 19 wherein said reference signal comprises an external reference signal.

Claim 22 (previously presented): A method according to claim 15 wherein the downsampling step is further defined as downsampling the identified samples.

Claim 23 (previously presented): A method according to claim 17 wherein the downsampling is carried out using samples with a flag indicating that the corresponding sample is free of interference.

Claim 24 (previously presented): The method according to claim 23 further defined as providing all samples of said first sequence of samples for downsampling.

Claim 25 (previously presented): The method according to claim 16 further defined as providing the identified samples for downsampling to form said second sequence of samples.

Claim 26 (previously presented): The method according to claim 15 wherein a frequency of downsampling is less than said first sampling frequency.

Claim 27 (previously presented): A method according to claim 15 wherein the downsampling step includes low pass filtering of the first sequence of samples.

Claim 28 (previously presented): A method according to claim 15 further comprising the step of low pass filtering the second sequence of samples.

Claim 29 (previously presented): A method according to claim 15 further comprising the step of suppressing power supply hum in the first sequence of samples by updating values of the samples according to the amount of power supply hum.

Claim 30 (previously presented): A method according to claim 29 wherein the suppressing step includes the steps of:

estimating the power supply hum based on the first sequence of samples; and

deducting the estimated power supply hum from the first sequence to update the values of the samples.

Claim 31 (previously presented): A method according to claim 15 further defined as one for suppressing interference in an ECG electric signal.

Claim 32 (currently amended): An apparatus for suppressing interference in an electrical signal, the ~~method~~ apparatus comprising ~~the steps of~~:

sampling means for sampling the electrical signal at a first sampling frequency to obtain a first sequence of samples;

identification means for identifying some of the samples in the first sequence of samples on the basis of predetermined criteria; and

downsampling means operatively connected to said identification means for

downsampling at least the identified samples of said first sequence to obtain a second sequence of samples from the identified samples of said first sequence and for forming a digital presentation of the electrical signal in which the interference is suppressed from said second sequence of signals.

Claim 33 (previously presented): An apparatus according to claim 32 wherein the identification means is further defined as identifying samples in the first sequence of samples on the basis of their interference content.

Claim 34 (previously presently): An apparatus according to claim 33 wherein the identification means is further defined as identifying samples that are artifact free.

Claim 35 (previously presented): An apparatus according to claim 32 wherein said identification means further comprises means for comparing the samples of the first sequence with a reference signal so that the identification is based on the comparison.

Claim 36 (previously presented): An apparatus according to claim 32 wherein the downsampling means is further defined as downsampling the identified samples.

Claim 37 (previously presented): An apparatus according to claim 32 wherein said downsampling means is further defined as carrying out said downsampling at a frequency of downsampling that is less than said first sampling frequency.

Claim 38 (previously presented): An apparatus according to claim 32 further comprising:

means for estimating the power supply hum based on the first sequence of samples; and

means for updating the samples of the first sequence based on the estimated amount of power supply hum.